

BUDAGYAN, Faddey Yervandovich; BONDAREV, G.I., red.

[Food toxicoses, toxinfections and their prevention]
Pishchevye toksikozy, toksikoinfektsii i ikh profilaktika.
Moskva, Meditsina, 1965. 206 p. (MIRA 18:3)

PEREPELKIN, Sergey Romanovich; BONDAREV, G.I., red.

[Protective effect of food and vitamins in radiation lesions of the body] Zashchitnoe deistvie pishchi i vitaminov pri luchevykh porazheniyakh organizma. Moskva, Meditsina, 1965. 164 p. (MIRA 18:12)

BONDAREV, G. I.

29100 - Vybor printsipa sortirovochnogo apparata dlya salaki, melkoy sel'di i
kil'ki . Pyv. zhodz-vo, 1949, No. 9, s. 23-25

SO: Letopis' Zhurnal'nykh Statey, Vol. 39, Moskva, 1949

BONDAREV, G. I.

BONDAREV, G. I. -- "INVESTIGATION OF THE OPERATING PROCESS OF A HIGH-SPEED ENGINE WITH SELF-IGNITION WITH A DIVIDED COMBUSTION CHAMBER." SUB 9 JUN 52, MOSCOW ORDER OF LENIN AVIATION INST IMENI SERGO ORDZHONIKIDZE (DISSERTATION FOR THE DEGREE OF CANDIDATE IN TECHNICAL SCIENCE)

SO: VECHERNAYA MOSKVA, JANUARY-DECEMBER 1952

BONDAREV, G.I.

Shaft smoke-generator
Ryb. khoz. 28 no. 7, 1952

BONDAREV, G.I., kand.tekhn.nauk.

Characteristics of and calculations for a shaft type smoke generator.
Trudy VNIRO 35:97-101 '58. (MIRA 11:11)

1. Nauchno-issledovatel'skiy institut mekhanizatsii rybnoy promyshlennosti.

(Fish, Smoked) (Canning and preserving--Equipment and supplies)

L 33946-65 EWT(n)/EWP(j) Pc-4 RM

ACCESSION NR: AF4047209

S/0190/64/006/010/1821/1824

AUTHOR: Bayeras, G. I.; Bondarev, G. N.; Chelpanova, L. F.; Okhrimenko, I. S. 16
15
B

TITLE: Modification of polyamide resin with unsaturated aldehydes

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 6, no. 10, 1964, 1821-1824

TOPIC TAGS: polyamide resin, resin modification, unsaturated aldehyde, acrolein, crotonaldehyde, polymer viscosity, polymer molecular weight

ABSTRACT: The authors investigated the activity of acrolein, crotonaldehyde, methylpropynal, tertiary-butyl-propynal and phenylpropynal in the modification of polyamide resin 348. To a 10% solution of the resin in 80% ethyl alcohol, the authors added a 68% solution of phosphoric acid (2% by weight of the resin). The aldehydes were then added gradually during 30-40 min. at 50C. with constant stirring continued for 20 hrs. The polymer was finally precipitated with acetone-water mixture (1:2) from a solution neutralized by ammonia, and the degree of unsaturation in the modified resin was determined by the method of Kaufman. The results showed that the degree of substitution of the amide hydrogen under these conditions, as determined by iodine number and elemental analysis, is independent of the aldehyde structure and lies within the limits of 0-10%. From the turbidity

Card 1/2

L. 33946-65

ACCESSION NR: AP4047209

metric titration curves, it can be concluded that modification by aldehydes is associated with changes in molecular weight distribution, which is in agreement with the results obtained by viscosity measurements. Orig. art. has: 1 formula, 2 figures and 1 table.

ASSOCIATION: Leningradskiy tekhnologicheskii institut im. Lensoveta (Leningrad technological institute)

SUBMITTED: 09Dec63

ENCL: 00

SUB CODE: MT

NO REF SOV: 004

OTHER: 004

Card 2/2

CHELPAKOVA, L.F.; PETROV, A.A.; BONDAREV, G.P.; NEMIROVSKIY, V.D.

Conjugated systems. Part 157: Synthesis and hydrobromination of
4-penten-2-ynal. Zhur.ob.khim. 32 no.8:2487-2489 Ag '62.

(MIRA 15:9)

1. Leningradskiy ~~tekh~~nologicheskii institut imeni Lensovetu.
(Pentenynal) (Hydrobromic acid)

BONDAREV, Georgiy Stepanovich; PLEVAKO, N.A., red.; SHIROKOVA, M.M.,
tekhn. red.

[Transducers and automatic checking devices for transportation
systems] Datchiki i pribory avtomaticheskogo kontrolya dlia
transportirovochnykh ustroystv. Moskva, Gos. energ. izd-vo,
1961. 47 p. (Biblioteka po avtomatike, no.45) (MIRA 15:3)
(Automatic control)

BONDAREV, G.S., inzh.

Noncontact electronic signal indicator. Mekh. i avtom. proizv.
17 no.12:33-34 D'63. (MIRA 17:2)

BONDAREV, G.YE.

122-5-2/35

AUTHOR: Bondarev, G.Ye. (Cand.Tech.Sc.)

TITLE: The Work of the Supercharged Two-Stroke Engine. (Rabota dvukhtaktnogo dvigatelya pri povyshennykh davleniyakh)

PERIODICAL: Vestnik Mashinstroyeniya, 1957, Nr 5, pp.5-8 (USSR)

ABSTRACT: Results obtained in tests of a two-stroke, compression ignition engine, 2-PK-30, of 100 hp, working at an elevated pressure at inlet and outlet are reported. Before the tests, the scavenging chamber below the piston was disconnected and the air was supplied to the scavenging ports from a receiver held under pressure by special compressors. In one set of tests the engine traversed its load characteristics at 300 rpm at an exit pressure of 1.19-1.25 kg/cm². The inlet pressure varied between 1.42 and 1.72 kg/cm². In another set the maximum power was maintained with an inlet pressure of 1.65 kg/cm² or 1.72 kg/cm² and a variation of back pressure at outlet changing the ratio of exit to inlet pressure between 1.5 and 1.15. The tests are recorded in the form of graphs (including the load characteristic) giving powers, pressures and fuel consumptions, residual air coefficients and temperatures against the power output. The same quantities are plotted against the outlet/inlet pressure ratio and against the inlet pressure. In the conduct of the tests,

Card 1/2

122-5-2/35

The Work of the Supercharged Two-Stroke Engine.

the excess coefficient was controlled to yield the same degree of excess air, defined by a CO_2 content in the exhaust between 9 and 9.3%. The tests show that two-stroke engines with straight-through scavenging can work with high inlet and outlet pressures provided the outlet/inlet pressure ratio is near unity. It is recalled that similar tests at the Moscow Institute of Technology (IMVTU imeni Bauman) have shown the stable operation of a similar engine at high inlet and outlet pressures but also in a region of inlet/outlet pressure ratios near unity. It is noted that with an increase of both inlet and outlet pressures up to 1.70 kg/cm^2 , the effective power increases from 90 hp at an inlet pressure of 1.1 kg/cm^2 , with an outlet/inlet pressure ratio of 1.55, up to 146 hp at an inlet pressure of 1.5 kg/cm^2 (outlet/inlet pressure ratio, 1.14). The power increase is limited mainly by the density of the inlet charge and the variation in the value of the residual air coefficient. The high exhaust gas temperature so obtained favours a turbo-supercharger. There are 5 graphs.

AVAILABLE: Library of Congress.

Card 2/2

BONDAREV, G.Ye., kand.tekhn.nauk; KLIMANOV, G.V., inzh.

Lessening the wear of fuel pump pistons in diesel tractor engines.
Trakt. i sel'khoz mash. no.12:9-11 D '58. (MIRA 11:12)
(Fuel pumps)

BONDAREV, I.I.

Twenty years of operation of the Zuevo State Regional Electric Power Station
Elek. Sta., no. 1, 1952
Inzh.

BONDAREV, I.; PORISENKO, N.; PESCHANYI, N.

Decision on the introduction of new devices raising the power factor of electric power consuming industries. Prom. energ. 16 no.2:49-50 F '61. (MIRA 14:3)

1. Nachal'nik Soyuzglavenergo pri Gosplane SSSR (for Bondarev).
2. Nachal'nik Upravleniya elektrotehniki i elektroniki Gosudarstvennogo komiteta Soveta Ministrov SSSR po avtomatizatsii i mekhanizatsii (for Borisenko).
3. Nachal'nik Upravleniya po avtomatizatsii i oborudovaniyu dlya metallurgicheskoy promyshlennosti Gosudarstvennogo komiteta Soveta Ministrov SSSR po avtomatizatsii i mekhanizatsii (for peschanyy)
(Electric power)

BONDAREV, I.; MUSIYENKO, K.

Machine operators for Cuba. Prof.-tekh.obr. 20 no.2:9 P '63.
(MIRA 16:2)

1. Direktor Slavyanskogo sel'skogo professional'no-tekhnicheskogo uchilishcha No. 3 Krasnodarskogo kraya (for Bondarev).

2. Zamestitel' direktora Slavyanskogo sel'skogo professionalo-tekhnicheskogo uchilishcha No.3 Krasnodarskogo draya (for Musiyenko).

(Students, Cuban)

(Farm mechanization--Study and teaching)

NOVIKOV, I.T.; PAVLENKO, A.S.; SMIRNOV, M.S.; CHIZHOV, D.G.; LAVRENNENKO,
K.D.; NEKRASOV, A.M.; NOSOV, R.P.; TARASOV, N.Ya.; ZHIMERIN, D.G.
UGORETS, I.I.; DMITRIYEV, I.I.; DROBYSHEV, A.I.; YERMAKOV, V.S.;
SAPOZHNIKOV, P.V.; BOROVY, A.A.; BANNIK, V.P.; DASKOVSKIY, Ya.M.;
ROGOVIN, N.A.; PETROV, A.N.; MEL'NIKOV, B.V.; LATYSH, D.I.;
KONIN, F.P.; DYDYKIN, P.Ye.; BONDAREV, I.I.; GUMENYUK, D.L.;
POREGAYLO, K.M.

Ol'ga Sergeevna Kalashnikova; obituary. Elek.sta. 30 no.2:95
F '59. (MIRA 12:3)

(Kalashnikova, Ol'ga Sergeevna, 1914)

BONDAREV, I.I., inzh.

Decrease the cost of electric power. Elek.sta. 31 no.6:39-42
Je '60. (MIRA 13:7)
(Electric power)

AVTONOMOV, B.V.; BONDAREV, I.I.; BORISENKO, P.I.; BURLAKA, S.A.; VESELOV,
N.D.; ZUBANOV, K.V.; KLIMENKO, G.A.; KOTILEVSKIY, D.G.; KUDISH,
A.D.; LAVRENEENKO, K.D.; MALYUTIN, N.P.; MARINOV, A.M.;
MOLOKANOV, S.I.; PLOGATYREV, A.A.; POBEGAYLO, K.M.; POGAYEVSKIY,
V.L.; SAVINYKH, A.I.; SAPOZHNIKOV, F.V.; SERDYUKOV, N.P.;
FINOGENOV, Ya.I.; CHALDRANYAN, V.P.; CHULKOV, Ye.I.; SHANIN, V.P.;
SHISHOV, V.V.

Ivan Konstantinovich Khivrenko; obituary. Elek.sta. 34 no.2:96
F '63. (MIRA 16:4)

(Khivrenko, Ivan Konstantinovich, 1899-1962)

18(5)

SOV/128-59-6-17/25

AUTHOR: Bondarev, I.L., Engineer

TITLE: Centrifugal Casting of Brass Steam Pump Valve

PERIODICAL: Liteynoye Proizvodstvo, 1959, Nr 6, p 42 (USSR)

ABSTRACT: In the foundry department of the Machine Plant at Nal'chik the castings for the production of steam pump valves, system "Worthington" had been made from brass of the MISK 58-2-2 type, , and gave 10% defective goods. Following a suggestion made by the author, production was changed to centrifugal casting in metal molds. By this means the defects, like porosity and blow holes, could be eliminated. The output productivity rate was raised three-fold. There are 3 diagrams.

Card 1/1

BONDARENKO, I.I., inzh.

Power engineering in the Soviet Union during the period between
the 20th and 22d Congresses of the CPSU. Teploenergetika 8
no.10:10-15 O '61. (NIRA 14:10)

1. Soyuzglavenergo.
(Power engineering)

BONDAREV, I.M., doktor med.nauk

Experimental study of the healing mechanism of pulmonary tuberculous caverns. Probl. tub. 42 no.8:77-89 '64.

(MIRA 18:12)

1. Otdeleniye eksperimental'noy patologii i terapii (rukovoditel' I.M.Bondarev) Moskovskogo nauchno-issledovatel'skogo instituta tuberkuleza (direktor T.P.Mochalova; zamestital' direktora po nauchnoy chasti prof. D.D.Aseyev) Ministerstva zdravookhraneniya RSFSR.

BONDAREV, I.M.

USSR/General Problems of Pathology - Immunity.

S-1

Abs Jour : Referat Zhur - Biologiya, No 16, 1957, 7133⁴

Author : Gordienko, A.N., Kisleva, V.I., Saakov, B.A., Bondarev, I.M., Nekrashes, E.I.

Inst :
Title : Method of Isolation of the Carotid Sinus and Further Proof for the Reflex Action of Antibodies.

Orig Pub : Biul. eksperim. biol. i meditsiny, 1956, 42, No 11, 70-72

Abstract : The vascular-nerve bundle of the neck was laid bare; on the inner side of the carotid sinus the sinus nerve was prepared. The arteries were tied together with the adjoining tissues. The sinus nerve remained intact above the tied vessels. Into the carotid sinus of a dog, 0.2 ml of radioactive typhoid vaccine was introduced, containing 100-400 μ curie P³², in one ml. and 4 billion microbial bodies. The activity of blood and the agglutination titer was determined before the vaccination and after - -

Card 1/2

- 5 -

USSR/General Problems of Pathology - Immunity.

8-1

Abs Jour : Referat Zhur - Biologiya, No 16, 1957, 71334

5 minutes; after 7 days- only the agglutination titer.
The initial agglutination titer was 1:20-1:80; after
7 days 1:160-1:2560. Vaccination after severance of the
sinus nerve showed a slightly reduced increase in agglu-
tination titer (1:160-1:640).

Card 2/2

- 6 -

GORDIYENKO, A.N.; KISELEVA, V.I.; SAAKOV, B.A.; TSYNKALOVSKIY, R.B.;
AZHIPA, Ya.I.; LET'YEN, A.V.; YEGOROV, A.I.; BONDAREV, I.M.;
ZHIGALINA, L.I.

Reflex production of antibodies caused by antigen injection into an
isolated spleen [with summary in English]. Biul.eksp.biol. i med.
43 no.4:80-82 Ap '57. (MIRA 10:10)

1. Iz kafedry patofiziologii (zav. - prof. A.N.Gordiyenko) Rostov-
skogo meditsinskogo instituta. Predstavlena akademikom A.D.Speran-
skim.

(ANTIBODIES

form by reflex in system caused by antigen inject. into
isolated spleen in dogs)

(SPLEEN, physiol.

antibody form by reflex in system caused by antigen
inject. into isolated spleen in dogs)

BONDAREV, I.M.; BUSLER, I.V.; ZHIGALINA, L.I.

Method of rapid preparation of electrophoregrams [with summary in English]. *Biul. eksp. biol. med.* 44 no.8:114-118 Ag '57. (MIRA 10:11)

1. Iz kafedry patologicheskoy fiziologii (zav. - prof. A.N.Gordiyenko) Rostovskogo meditsinskogo instituta. Predstavlena deystvitel'nyy chlenom AMN SSSR N.A.Rozhanskim.

(ELECTROPHORESIS,

rapid prep. of electrophoregram (Rus))

GORDIYENKO, A.N., KISILEVA, V.I., SAAKOV, B.A., BONDAREV, I.M., ZHIGALINA, L.I.

Pharmacological analysis of the effect of antigens on receptors of the carotid sinus during reflex antibody production [with summary in English]. Biul. eksp. biol. i med. 44 no.11:72-75 N'57

(MIRA 11:11)

1. Iz kafedry patologicheskoy fiziologii (zav. - prof. A.N. Gordiyenko) Rostovskogo gosudarstvennogo meditsinskogo instituta, Rostov-na-Donu. Predstavlena akademikom A.D. Speranskim.

(ANTIGEN ANTIBODY, REACTION,

eff. of antigens on carotid sinus during reflex antibody prod. (Rus))

(CAROTID SINUS,

eff. of antigens during reflex antibody prod. (Rus))

GORDIYENKO, A.N., KISELEVA, V.I., SAAKOV, B.A., AZHIPA, Ya.I., TSYNKALOVSKIY,
E.B., LET'YEN, A.V., YEGOROV, A.I., BONDAREV, I.M., ZHIGALINA, L.I.

Further studies on the bioelectric potentials of nerves following
intracutaneous injection of antigens [with summary in English].
Biul.eksp.biol. i med. 45 no.4:96-99 Ap '58 (MIRA 11:5)

1. Iz kafedry patofiziologii (zav. - prof. A.N. Gordiyenko)
Rostovskogo meditsinskogo instituta (dir. - prof. Ye.M. Gubarev).
Predstavlena akademikom A.D. Speranskim.

(NERVE ENDINGS, physiology

bioelectric potentials after intracutaneous inject.
of E.coli antigen (Rus))

(ESCHERICHIA COLI,

antigen intracutaneous inject. causing change in
bioelectric potentials of receptors (Rus))

BONDARIY, I.M. (Rostov-na-Donu)

Mechanism of protein regeneration following acute blood loss. Pat.
fiziol. i eksp.terap. 3 no.4:61-65 JI-Ag '59. (MIRA 12:12)

1. Iz kafedry patologicheskoy fiziologii (zav. - prof. A.N. Gordi-
yenko) Rostovskogo meditsinskogo instituta.
(BLOOD PROTEINS)
(HEMORRHAGE experimental)

BONDAREV, I.M.; ZHIGALINA, L.I.

Densitometry with a logarithmically calibrated lens and KKP-4m. lab.
delo 5 no.3:53-56 My-Je '59. (MIRA 12:6)

1. Iz kafedry patologicheskoy fiziologii (zav. - prof. A.N. Gordiyenko)
Rostovskogo meditsinskogo instituta.
(DENSITOMETERS)

GORDIYENKO, A.N.; SAAKOV, B.A.; BONDAREV, I.M.

Sensory nerve impulses following antigenic stimulation of skin receptors in immunized animals. Biul. eksp. biol. i med. 47 no.3: 66-69 Mr '59. (MIRA 12:7)

1. Iz kafedry patofiziologii (zav. - prof. A.N. Gordiyenko) Rostovskogo meditsinskogo instituta. Predstavlena deystvitel'nyy chlenom AMN SSSR V. N. Chernigovskim.

(NERVOUS SYSTEM, physiol.

sensory nerve impulses after antigenic stimulation of skin receptors in immunized animals)

(ANTIGENS,

same)

(SKIN, physiol.

same)

BONDAREV, I.M.; ZHIGALINA, L.I.

Hematoaspirator. Lab. delo 6 no.5:54-55 S-0 '60. (MIRA 13:9)

1. Kafedra patologicheskoy fiziologii (zav. - prof. A.N. Gordiyenko)
Rostovskogo meditsinskogo instituta).
(ASPIRATORS) (BLOOD)

GORDIYENKO, A.N.; KISELEVA, V.I.; TSYNKALOVSKIY, R.B.; SAAKOV, B.A.;
AZHIPA, Ya.I.; LET'YEN, A.V.; YEGOROV, A.I.; OCHELENKO, L.N.;
~~BONDAREV, I.M.~~; ZHIGALINA, L.I.

Electrophysiological analysis of the action of antigens on the
angioceptors. Biul.eksp. biol. i med. 49 no.2:90-94 F '60.
(MIRA 14:5)

1. Iz kafedry patofiziologii (zav. - prof. A.N.Gordiyenko)
Rostovskogo meditsinskogo instituta. Predstavlena akademikom
A.D.Speranskim.

(ANTIGENS AND ANTIBODIES) (CAROTID SINUS)
(ELECTROPHYSIOLOGY)

BONDAREV, I.M. (Rostov-na-Donu)

Hematological and immunobiological changes in dogs with pulmonary
tuberculous cavities. Pat.fiziol. i eksp. terap. 5 no.3:64-71
My-Je '61. (MIRA 14:6)

1. Iz kafedry patofiziologii (zav. - prof. A.N.Gordiyenko) Rostov-
skogo meditsinskogo instituta.
(TUBERCULOSIS)

BONDAREV, I.M.

Role of allergy in the appearance of tuberculous cavities of
the lung in dogs. Probl.tub. 39 no.3:80-88 '61. (MIRA 14:5)

1. Iz kafedry patologicheskoy fiziologii (zav. - prof. A.N.
Gordinenko) Rostovskogo-na-Donu meditsinskogo instituta.
(TUBERCULOSIS) (ALLERGY)

GORDIYENKO, A.N.; BONDAREV, I.M. (Rostov-na-Donu)

Mechanism of the development of delayed allergic reaction.

Pat. fiziol. i eksp. terap. 7 no.1:52-55 Ja'F'63.

(MIRA 16:10)

1. Iz kafedry patologicheskoy fiziologii (zav. - prof. A.N. Gordiyenko) Rostovskogo meditsinskogo instituta.

(ALLERGY)

(TISSUE EXTRACTS)

BONDAREV, Ivan Markovich; MORDOVSKIKH, V.P.; red.

[For workers' benefit] Dlia blaga trudiashchikhsia.
Cheliabinsk: Cheliabinskoe knizhnoe izd-vo, 1963. 58 p.
(MIRA 17:7)

1. Prepodavatel' kafedry istorii Kommunisticheskoy Partii
Sovetskogo Soyuza Chelyabinskogo politekhnicheskogo instituta
(for Bondarev).

BONDAREV, I.L.

Core box with a pneumatic knockout device. Lit. proizv. no.12:
29 D '61. (MIRA 14:12)

(Coremaking)

BONDAREV, K. [Bondariev, K.], inzh.; MALEVANNYY, I. [Mal'ovanyi, I.], inzh.

The LF-35 production line for beveling flat glass. Bud. mat.
i konstr. 4 no.2:29-31 Mr-Ap '62. (MIRA 15:9)
(Glass cutting)

BONDAREV, K., mekhanik

Device for hanging wallpaper without using tables and
ladders. Na stroi. Mosk. 2 no.8:30 Ag '59. (MIRA 12:12)

1. Stroitel'nyy uchastok-73 tresta Mosotdelstroy No.1.
(Paper hanging)

BONDAREV, K.D.

118-58-4-6/23

AUTHORS: Dukhovlinov, D.P. and Bondarev, K.D., Engineers

TITLE: The Breaking of Potassium Salt by Boring Deep Holes (Otboyka kaliynoy soli glubokimi skvazhinami)

PERIODICAL: Mekhanizatsiya Trudoy i Tyazhelykh Rabot, 1958, Nr 4, pp 15-16 (USSR)

ABSTRACT: The authors give a detailed description of a new technique introduced at the Stebnikovsk Potassium Salt Deposits. In general it consists of sub-level mining, in which minerals are crushed by blasting deep fan-shaped holes. The new method is less dangerous and increases a miner's productivity by 25%. There are 4 schematic drawings.

AVAILABLE: Library of Congress

Card 1/1

1. Mining engineering-Applications
2. Mines-Production methods
3. Potassium salts-Production

SHESTAKOV, V.A., kand.tekhn.nauk; SNEGOV, A.I., gornyy inzh.;
BONDAREV, K.D., gornyy inzh.; ALIYEV, A.A., gornyy inzh.;
AGZAMOV, K.Sh., gornyy inzh.; ABRAMOV, N.P.

Using deep boreholes for breaking ore in the Sumsar Mine.
Gor. zhur. no.12:8-10 D '62. (MIRA 15:11)

1. Institut gornogo dela i metallurgii AN Kirgizskoy
SSR (for Shestakov, Snegov, Bondarev, Aliyev, Agzamov).
2. Sumsarskiy rudnik (for Abramov).
(Sumsar region--Boring--Labor productivity)
(Blasting)

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<p>Manufacture of sheet ruby glass. K. T. Bondarev and V. I. Vainin. <i>Keram. i Steklo</i> 14, No. 2, 17-20 (1938).</p> <p>A zinc borosilicate glass of the compn.: 68.5% SiO₂, 0.3 Al₂O₃, 0.1 Fe₂O₃, 0.3 B₂O₃, 0.3 CaO, 0.1 MgO, 11.0 ZnO, 12.0 Na₂O + K₂O, 0.8 CuS, 0.1 S, and 0.5 SO₂, was used as a base. The glass was melted in a Siemens pot furnace. It was found that: (1) The following factors affect the color tone of ruby glass: (a) amt. of pigments in the batch, (b) conditions of melting, (c) duration of melting at 1650° and 1100°, (d) time of annealing at temp. below the softening temp. of the glass. (2) Better results were obtained in using coned. Chassov Yar sands because of the fact that iron oxides affect the glass coloring. (3) A second heating of the glass to the softening temp. diminishes the concn. of the ruby color; the glass becomes opalescent at higher temps. M. V. C.</p>																																																																																																																																																											
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PROCESS AND PREPARE INDEX																																																				
<div style="float: right; font-size: 2em;">19</div> <div style="text-align: center;"> <p>Strength of chilled glass "statnite." K. T. Bondarev. <i>Nekobaya Prom.</i> 14, No. 7, 28 (1938). — Data on the phys. properties of chilled glass "statnite" are given. M. V. Condoide</p> </div>																																																				
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A. E. S.

New production method for pressing glass. K. T.
BONDAREV AND P. A. PIVOVAROV. *Steklo'stroy i Khran-*
Proiz. 1966, No. 6, pp. 5-7.—In mold-pressing glass the
production was increased, the quality of the product im-
proved, and the waste considerably decreased by using the
mold to take the gather and then finishing the pressing.
Data are quoted to show the extensive economies achieved
thereby. M. Ho.

C

Cutting of glass with silicon carbide wheels. K. T. BOKHAROV. *Sokol'naya i Keram. Prom.*, 1947, No. 1, pp. 10-17; abstracted in *Chem. Zentr.*, 1947, 1 [17/18] 840
The best results in cutting glass are obtained with silicon carbide wheels of 60 to 80 grain size and a peripheral speed of 10 to 15 m./sec. M. H. A.

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
PROCESSES AND PROPERTIES INDEX																																																			
<p>Manufacture of bent, quenched, and hardened glasses. K. T. Bognanny. Stokhays i Keram. Prom., 1947, No. 2, p. 24; abstracted in Chem. Zentr., 1947, I [21/22] 11037.—Two successful methods for bending glass are described: (1) making molds of fine pulverized firebrick by means of metal or wood patterns and pressing the glass to be deformed into the mold after sufficient heating; and (2) using gypsum molds. After deformation, the glasses are thermally hardened in specially constructed devices. M.H.A.</p>																																																			
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BONDAREV, K. T.

Bondarev, K. T. - "Thin-layer charges in bath furnaces," Trudy Tekhn. konf-tsiy rabotnikov stekol. prom-sti, Moscow, 1948, p. 141-45

SO: U-3600, 10 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 6, 1949).

1ST AND 2ND ORDERS										3RD AND 4TH ORDERS										5TH AND 6TH ORDERS									
PROCESSES AND PROPERTIES INDEX																													
<p><i>c</i></p> <p>Thin-layer feeding of charge. K. T. BONDAREV. <i>Shtab i Aram.</i>, 5 [3] 8-10 (1948).—Details are given of the design and operation of a thin-layer mechanism (TZ) for feeding the charge into a tank furnace. Its use at the Konstantinovsk glass plant, which produces automobile glass, has shown that charge is melted in about 12 min. after it is fed into the furnace. The output of the furnace was raised to 1000 kg./m.² per 24 hr., and higher values are still possible. H.Z.K.</p>																													
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PROCESSES AND PROPERTIES INDEX																			
<p>Recent Translations of Russian Papers of Interest to the Glass Industry. <i>Glass Industry</i>, v. 20, Dec. 1948, p. 698-699, 722.</p> <p>Condensations of three papers from <i>Stekol'naya i Keramicheskaya Promyshlennost</i> (Glass and Ceramic Industry): "Carborundum Saws for Glass," K. T. Bondarev (no. 1, 1947, p. 16); "Heat Conductance of Some Glasses," D. B. Ginzburg (no. 7, 1947, p. 9); and "Nomograms for the Viscosity of Glass," M. V. Okhotin (no. 11, 1947, p. 8).</p>																			
<p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																			
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ATR

22

10720* Ways of Improving the Light Transmission of Glass. (Russian.) K. T. Bondarev. *Steklo i Keramika*, v. 9, May 1932, p. 3-6.
The roles of the $FeO-Fe_2O_3$ ratio on the transparency of glass and ways of controlling it are discussed. Various mixtures of raw materials and typical properties are tabulated.

High-transparency glass from continuous tanks. K. T.
BONDAREV, V. A. DUDROVSKI, V. V. POLLYAK, AND I. E. SITA.
SPEKTR. Steklo i Keram., 10 [12] 4-11 (1953).—In a continuous
tank of ordinary construction fired with clean producer gas, glass
having a transparency of over 80% was obtained. FeO content
was within the limits of 0 to 10% of the total Fe compounds in
the glass. High transparency was made possible by the use of
oxidizers; the optimum oxidizer was a mixture of equal amounts
(0.05 to 0.075%) of As_2O_3 and Sb_2O_3 . Fe_2O_3 in the glassmelt was
0.06%. Cf. Ceram. Abstr., 1953, Nov., p. 180. B.Z.R.

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BONDAREV, K. T.

USSR

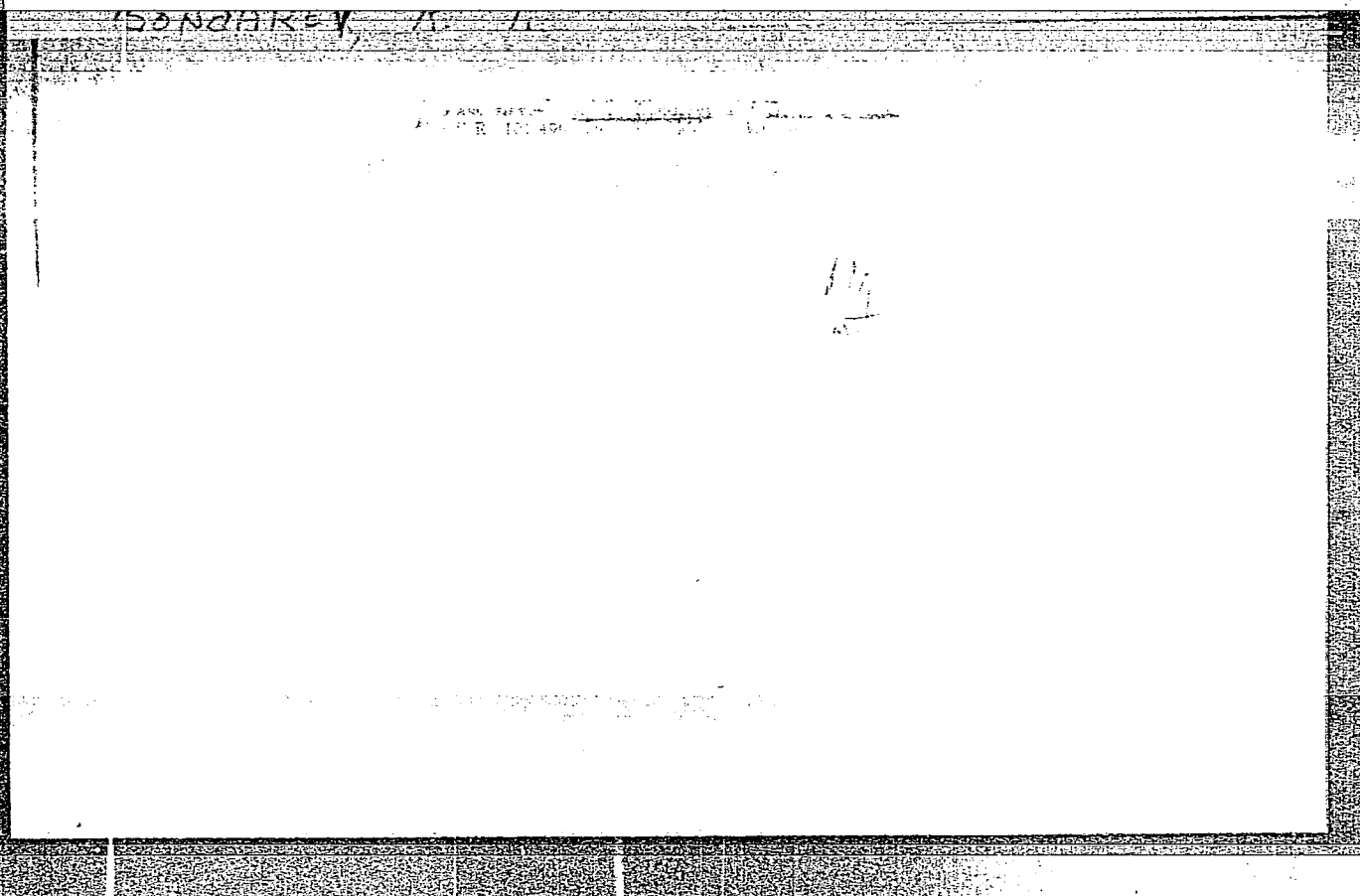
✓ Effect of zirconia on chemical stability of glass. K. T. Bondarev. *Siblo i Kerom.* 11, No. 7, 19-20 (1954). In lab. exper., ZrO_2 was added in amts. of 0.1-1% as $ZrO_2 \cdot SiO_2$ powder to a charge consisting of SiO_2 75, Al_2O_3 0.43, Fe_2O_3 0.05, CaO 8.6, MgO 0.11, Na_2O 15, and SO_2 0.5%. Stability was detd. against water and alkali. Addn. of 0.1-0.3% ZrO_2 increased alkali resistance considerably; further addn. to 1% resulted in smaller increase of resistance. ZrO_2 was added in amt. of 0.3-0.5% to charge in tank furnace, but pos. results were not obtained because of high temp. (1470° in the melter and small take-off (330 kg. glass from 1 sq. m. per 24 hrs. for the entire surface). To overcome this, low-melting glass contg. 20% ZrO_2 was added to the charge. B. Z. Katpich

U S S R .

747. Fused quartz as a new refractory for the glass industry.—K. T. BONDAREV (*Glass & Ceramics*, Moscow, 11, No. 10, 24, 1954). For the past 5 years a Russian glass plant has successfully used fused quartz for the lining of periodic glass-tanks melting glass containing 5% alkalis. In 1953 a continuous tank for glass containing 14-15% Na_2O and 75% SiO_2 was lined with fused-quartz blocks; this tank had a cold repair after 12 months. Fused-quartz blocks give siliceous stones with a lower surface tension than stones derived from aluminous refractories, and so they are dissolved more easily. Quartz blocks (containing <0.1% Fe and 0% Cr) improve the colour of the glass. The apparent porosity is zero; the true porosity is 3-4%. A fault of these blocks is the internal cavity, the walls of which are covered with fragments of carbon electrode and sand grains; these accelerate the wear of the blocks. Before crystallization, the deformation under load lies below that of a normal firebrick, but after crystallization (to cristobalite) the temperature of the beginning of softening increases to 1,680° C.; 4%-subsidence occurs at 1,700° C., and 40%-subsidence at 1,710° C. (2 figs., 2 tables.)

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BONDAREV, K.T.; MALEVANNYYI, I.V.

~~XXXXXXXXXX~~
Cutting glass with abrasive saws. Stek. i ker. 13 no.8:27-29 Ag '56.
(Konstantinovka--Glass cutting) (MLRA 9:10)

BONDAREV, K.T.

Achievements of the Konstantinovka plant "Avtosteklo." Stek.i kar.
14 no.10:11-14 O '57. (MIRA 10:12)

1. Direktor Konstantinovskogo zavoda "Avtosteklo."
(Konstantinovka (Stalino Province)--Glass manufacture)
(Glass, Safety)

AUTHORS: Bondarev, K.T., Director of the "Avtosteklo" Works, 72-2-8/20
Dubrovskiy, V.A., Director of the Ukrainian Branch of
the Institute for Glass

TITLE: The Application of Rare Earth Preparations in the Glass Industry
(Primeneniye v stekol'noy promyshlennosti preparatov redkikh zemel').

PERIODICAL: Steklo i Keramika, 1958. Nr 2, pp. 21-24 (USSR)

ABSTRACT: Cerium dioxide can be used for the decolorization of glass, but, because of its high price, it is not used in a pure state. At present, however, cerium-dioxide-containing preparations are available at comparatively low prices. They are adulterated in different degrees by lanthanum-, neodymium-, praseodymium- and other oxides of rare earths (preparations KU-10). For the purpose of investigating the possibility of decolorizing glass by means of these preparations 3 types of glass were smelted as an experiment. The composition of these 3 types of glass is shown in table 1. L.G. Gurvits assisted in this work [Ref.1]. The transparence of the glass samples was measured by means of the photometer $\Phi T-15$. In their quality of glass decolorizing media preparations of arsenic- and antimony oxides, cerium dioxide, KU-10 and polirite were used. The cerium dioxide content in the preparations KU-10 and polirite is shown in table 4. The results obtained by the

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The Application of Rare Earth Preparations in the Glass Industry

72-2-8/20

glass-decolorization tests carried out by means of a mixture of antimony- and arsenic oxides are shown in table 2, those carried out with a cerium dioxide preparation in table 3, and those in which the preparations KLL-10 and polirite were used are shown in table 4. The experiments are then described and explained in detail. As may be seen from fig. 1, polirite possesses the greatest polishing efficiency, and fig. 2 shows a comparison with other polishing media. Polirite substances already used can be used repeatedly. By the introduction of polirite in the plant Konstantinovka "Avtosteklo" the efficiency of the polishing process has been increased to 1.3-1.8 of its former extent. Some of the other rare earths compounds might also find suitable use in the glass industry: neodymium- and praseodymium oxides as coloring agents for light filters and artificial glass, lanthanum oxide for the production of high-efficiency refractories. There are 2 figures, 4 tables, and 4 references, 3 of which are Slavic.

ASSOCIATION: Konstantinovka "Avtosteklo" Works (Konstantinovskiy zavod "Avtosteklo") Ukrainian Branch of the Institute for Glass (Ukrainskiy filial instituta stekla).

AVAILABLE: Library of Congress

Card 2/2

AUTHOR: Bondarev, K. T. SOV/72-58-10-3/18

TITLE: Manufacture and Use of Glass-Stacks (Proizvodstvo i primeneniye steklopaketov)

PERIODICAL: Steklo i keramika, 1958, Nr 10, pp 12-17 (USSR)

ABSTRACT: Figure 1 shows a glass-stack consisting of 2 or more window-panes. The space between them is filled with dehydrated air. In figures 2, 3, 4, 5, 6, 7, 8, 9, and 10 various constructions of glass-stacks are shown and described. Figure 11 shows an autoclave which consists of 5 chambers and is used for preheating, pressing, cooling and blowing of glass-stacks. In table 1 the consumption of raw materials for 1 m² of glass-stacks is given. Figure 12 shows the usual construction of a window wing (a, b) and a wing furnished with a glass-stack. Figure 13 gives a design for a three-wing window. Wings furnished with glass-stacks make a considerable saving of wood and working-time possible (Table 2). According to the resolution of the Council of National Economy of Stalino, in the 4th quarter of 1958 a plant for the manufacture of 150 000 m² glass-stacks per year shall start operating in Konstantinovskiy stekol'nyy zavod imeni

Card 1/2

Manufacture and Use of Glass-Stacks

SOV/72-58-10-3/18

Oktyabr'skoy revolyutsii (Konstantinovka Glass Works imeni Oktyabr'skaya revolyutsiya). Glavkiyevstroy and Glavmosstroy also decided to use glass-stacks in 1958. The Akademii stroitel'stva i arkhitektury SSSR i USSR (Academies of Building and Architecture, USSR and UkrSSR) take part in this action. There are 13 figures and 2 tables.

Card 2/2

AUTHOR: Bondarev, K. T., Director

SOV/72-58-11-3/15

TITLE: The Road to Fame in Work (Put' trudovoy slavy)

PERIODICAL: Steklo i keramika, 1958, Nr 11, pp 5-7 (USSR)

ABSTRACT: By decree of the Praesidium of the Supreme Soviet the Konstantinovka "Avtosteklo" Factory was awarded the order of the Red Banner of Work on August 9, 1958. The factory was built in the year 1899 by a Belgian joint stock company. At present it is one of the largest factories in the USSR and Europe for the production of technical and building glass. In 1917 it was destroyed during the civil war and in 1925 it was rebuilt. During the Second World War it was removed to the Ural and later in the course of 7 years it was again restored with the expenditure of several 100 000 000 Roubles. In 1950 it had achieved its production level of 1940, and in 1957 its production was 4 times that of 1950. In the post-war years new types of technical and building glasses were produced. The process of automatic metal-feed was introduced by employees of the factory. In 1948-1949 the glass production by the method of continuous rolling was introduced, whereby the productivity increased

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The Road to Fame in Work

SOV/72-58-11-3/15

by 8 - 10 time and the quality of the glass was very markedly improved. A number of working men were involved in this work. Through the efforts of several foremen the capacity of the melting furnaces and machines was raised 2 to 3 times. The glass-grinding and polishing were also considerably improved. The control of the thermal processes in the furnaces was also made automatic. Employees of the factory in the past years offered over 4000 suggestions for improvements, which resulted in greater economizings. The technical level of the workers and the technical personnel is constantly being improved by schooling. The factory has for three years been the leader in the All-Union Socialist competition in the undertakings of the building materials industry. The Seven Year Plan (1959-1965) includes extending the facilities and introducing new manufactured products into this factory.

ASSOCIATION: Konstantinovskiy zavod "Avtosteklo" (Konstantinovka Factory "Avtosteklo")

Card 2/2

AUTHORS: Bondarev, K. T., Koz'min, M. I.,
Minakov, A. G., Koval'chuk, G. M.

S/072/60/000/04/002/029
 B015/B014

TITLE: Production of Heat-resistant Sheet-glass by Means of the Method
 of Continuous Rolling

PERIODICAL: Steklo i keramika, 1960, Nr 4, pp 4-12 (USSR)

TEXT: In the article under review the authors describe the methods used to produce heat-resistant sheet-glass by means of continuous rolling, which were developed by them in cooperation with I. G. Gurvits, Ye. G. Gurvits, O. V. Vyshinskaya, D. F. Milodanov, G. I. Poltoratskiy, V. A. Zheleztsov, N. A. Korsun, and Ye. S. Gnedashevskaya. The first experiment was performed with MKR-1 glass in the furnace shown in figure 1. An ordinary rolling machine with two rolls made of EKk-25 steel (diameter of 320 mm, water cooling) was used for this purpose. The glass band was annealed in a furnace of the type LN-1000x18 of the zavod "Steklo-mashina" (Plant "Steklomashina"). The temperatures of the glass-melting furnace are shown in figure 2. The quality of MKR-1 glass is listed in table 1. The heat-resistant glass produced in this way was unsuited. Nonalkaline glass of the sort Nr 31, which meets all requirements, was obtained by experiments. Its composition and some of its physicochemical properties are given. A new tank furnace was installed, whose design and temperatures are shown in figures 3-6

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Production of Heat-resistant Sheet-glass by Means of
the Method of Continuous Rolling

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B015/B014

and 7, respectively. The EKh-25 rolling machine which has rolls 120 mm in diameter (instead of 320 mm), is illustrated in figures 8 and 9. Data on the glass band and the rolling rate are contained in table 2, and the quality of polished glass is shown in table 3. Figures 10 and 11 illustrate the condition of the furnace lining after a campaign of nine months. Mass production of heat-resistant glass is only possible by means of a tank furnace designed for high melting temperatures and an output of at least 300-350 kg/24 h per 1 m² of the hearth. It is further necessary to build a rolling machine whose rolls are made of heat-resistant steel and warrant normal operation in the temperature range 1400-1420°. It is also necessary to establish a continuously working annealing furnace which permits normal annealing of the glass band. There are 11 figures, 3 tables, and 1 reference.

Card 2/2

S/072/60/000/010/001/0C4
B021/B058

AUTHORS: Bondarev, K. T., Boroday, F. Ya.

TITLE: Production and Use of Light-sensitive Glass^{1b}

PERIODICAL: Steklo i keramika, 1960¹³ No. 10, pp. 1 - 4

TEXT: Light-sensitive glass can be produced by the admixture of gold, silver, or copper to any technical glass containing silica, oxides of alkali metal and of bivalent metal. The optimum amount of light-sensitive components is tabulated. Lithium-, potassium-, and sodium-oxide are used as alkali-metal oxides, and any oxide with which colorless glass can be obtained, may be used as bivalent metal oxide. Glasses with gold or silver content lose their light-sensitivity through the presence of copper. The light-sensitivity of glass is influenced by its melting conditions, the character of the furnace atmosphere, and the presence of redox agents. Depending on the glass composition, radiation dose, and thermal treatment, white and colored semitransparent and nontransparent pictures can be obtained on transparent glass, as well as colored pictures on subdued white ground. Lithium-containing glasses of special

Card 1/2

Production and Use of Light-sensitive Glass

S/072/60/000/010/001/004
B021/B058

light-sensitivity have been developed at the experimental department of the Konstantinovskiy zavod "Avtosteklo" (Konstantinovka "Avtosteklo" Plant). The glass was molten in the crucible furnace at a temperature of from 1450 to 1480°C in oxidizing atmosphere. After rolling, the glass was annealed in the tunnel kiln. The samples were treated with ultraviolet as well as X-rays, mercury-quartz lamps of the type СВДШ-1000 (SVDSH-1000) and ТПК-7 (PRK-7) and the installation of the type РПТ-2 (RUP-2) being used. The glass is etched in hydrofluoric acid in order to obtain plastic pictures, the difference of etching between the exposed and unexposed parts of the light-sensitive glass becoming noticeable. Plastic glass products may be obtained by exposure of the glass through a photonegative by means of ultraviolet rays, heat treatment and subsequent etching in hydrofluoric acid, as can be seen from Figs. 1 - 4. By this method, tiniest openings can be obtained on thin, light-sensitive glass. There are 4 figures, 1 table, and 2 non-Soviet references.

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86455

15.2120

S/072/60/000/012/006/008
B021/B058AUTHORS: Bondarev, K. T., Minakov, V. A.

TITLE: Submicroscopically Inhomogeneous Structure of Glass

PERIODICAL: Steklo i keramika, 1960, No. 12, pp. 22 - 27

TEXT: On the basis of the curves of dispersion intensity of small-angle X-ray scattering, Ye. A. Poray-Koshits and N. S. Andreyev inferred a submicroscopically inhomogeneous structure of sodium borosilicate glass. O. K. Botvinkin and N. I. Ananich showed that these glasses, such as noneks, $\beta\text{C}-9$ (ZS-9), and others have two phases. Electron-microscopic studies were made with an $\text{EM}-3$ (EM-3) electron microscope which has a resolution of 100 A. X-ray structural analyses were conducted on the YPC-50 (URS-50) device. The liquation in glass of the system $\text{Na}_2\text{O} \cdot \text{B}_2\text{O}_3$ is illustrated in Fig.1. L. I. Demkina and A. A. Appen demonstrated the possibility of the transition of boron into the tetrahedral form. The glass was melted by Ye. G. Gurvits and O. M. Vyshinskaya; the heat treatment was performed by S. Ye. Dvorkina and G. S. Porvenkov; and

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Submicroscopically Inhomogeneous Structure of Glass S/072/60/000/012/006/008
B021/B058

V. P. Stativ and V. N. Karlyuk assisted in the structural analysis. The electron micrograph of the surface of $B_2O_3 \cdot 3SiO_2$ glass is shown in Fig.2. The results of the authors agree with the conceptions of Ye. A. Poray-Koshits and S. P. Zhdanov on the structure of borosilicate glass. Sodium borosilicate glass (6% Na_2O , 29% B_2O_3 , 65% SiO_2) shows inhomogeneous zones but remains perfectly transparent (Fig.3), thus proving O. K. Botvinkin's hypothesis on the structure of glass. The heat treatment of these glasses at temperatures between 490 and 800°C changes their structure radically (Fig.4). Large and small pores can be detected by irradiating a preparation of porous glass, which was obtained by completely leaching out sodium borosilicate glass in hydrochloric acid (Fig.5). Tests of some industrial glasses, the composition of which is tabulated, showed that phase composition is characteristic of most types of glass. Inhomogeneous regions were detected in samples of Pyrex glass with slight opalescence (Fig.6). The mass-produced glass No. 31 has a submicroscopically inhomogeneous structure, which is distinctly marked after heat treatment (Fig.7). After hardening, zirconium glass 11-18 (Ts-18) shows inhomogeneous regions (Fig.8). Inclusions similar to

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Submicroscopically Inhomogeneous Structure
of Glass

S/072/60/000/012/006/008
B021/B058

crystal formations were discovered in samples of mass-produced window glass which had been subjected to heat treatment and remained transparent (Fig.9). A liquation in the absence of a crystalline phase was discovered in continuously rolled glass after heat treatment (Fig.10). The mass-produced transparent glass 0253 has a submicroscopically inhomogeneous structure (Fig.11). Lithium-containing glass remained transparent after heat treatment and exhibited a submicroscopically inhomogeneous structure in the absence of a crystalline phase (Fig.12). Transparent glass of the cordierite system showed no chemical inhomogeneity but a crystalline phase (Fig.13). The properties of glass and microcrystalline materials can be influenced by regulating the process of liquation, i.e., the separation of glass into phases. The authors' studies of the submicroscopically inhomogeneous glass structure contradict Zachariassen-Warren's hypothesis on the structure of glass as a continuous, disordered lattice, and prove the crystallite hypothesis by A. A. Lebedev and the aggregation hypothesis by O. K. Botvinkin. There are 13 figures, 1 table, and 13 references: 6 Soviet, 4 German, and 3 US.

Card 3/3

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S/072/61/000/001/002/005
B021/B054

AUTHOR: Bondarev, K. T.

TITLE: Stresses Originating in Leaching Sodium Boron Silicate Glasses

PERIODICAL: Steklo i keramika, 1961, ¹⁸No. 1, pp. 19-23

TEXT: In leaching sodium boron silicate glasses, compression stresses originate in the porous layer due to swelling, and stretching stresses due to shrinkage. In the non-leached part of the glass there occur stresses whose sign is contrary to that in the porous layer (Fig. 1). O. S. Molchanova's investigation showed that amount and sign of stresses in leaching depend on glass composition and heat treatment. At the testing department of the Konstantinovskiy zavod "Avtosteklo" (Konstantinovka "Avtosteklo" Works), the author supervised investigations of stresses in leaching sodium boron silicate glasses. N. N. Bazhenova, Ye. G. Gurvits, S. Ye. Dvorkina, G. S. Porvenkov, and L. Ya. Seraya assisted in the operations. The change in volume of the porous layer was measured by an ИКПВ (IKPV) interferometer. Stresses in the porous and

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Stresses Originating in Leaching Sodium
Boron Silicate Glasses

87577

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B021/B054

the non-leached glass layers were determined by the birefringence value by means of a polarimeter coupled with the interferometer. Fig. 2 shows the volume change in glass leaching as a function of its alkali content. Fig. 3 shows the content of sodium oxide in the ranges of heterogeneity of sodium boron silicate glasses under various conditions of heat treatment, as dependent on the content of sodium oxide in the initial glass. Fig. 4 shows the dependence of the amount of stresses in glass leaching on the composition of the heterogeneous region. The type of stresses originating in the porous layer in leaching sodium boron silicate glass is based on the two-phase character of the glass. Amount and sign of stresses in leaching depend on the composition of the easily liquefiable, heterogeneous phase. The composition of the regions of heterogeneity, however, depends on the glass composition and the conditions of heat treatment. There are 5 figures and 4 references: 2 Soviet, 1 German, and 1 US. X

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S/833/62/000/000/001/004
D034/D114

AUTHOR: Bondarev, K.T., Candidate of Technical Sciences
TITLE: Microcrystalline materials on a glass basis, their properties
and fields of application
SOURCE: Voprosy razvitiya stekol'noy i farforo-fayansovoy promysh-
lennosti. Ed. by F.D. Ovcharenko. Kiyev, Izd-vo AN UkrSSR,
1962, 47-54

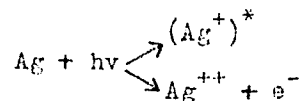
TEXT: Microcrystalline materials on a glass basis, known in the
USSR as sitall and in the USA as pyroceram are described and their struc-
ture is explained. They have a higher mechanical strength, better heat re-
sistance, higher softening temperature, and a higher degree of hardness
than the original glass. When the temperature of the supercooled liquid
glass drops, the movement of the molecules is retarded and will result in
a homogeneous formation of the crystallization centers or heterogeneous
crystallization or processes of crystal growth in the presence of catalysts.
The process of formation of crystallization centers may arise due to the

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Microcrystalline materials on a ...

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D034/D114

action of x- or ultraviolet rays on the cooled glass. The light quantum when interacting with glass either excites a silver, gold, or copper ion - reaction a - or ionizes these ions - reaction b - producing a free electron:



During the heat treatment process of the glass, the electrons knocked out by the quantum of active radiation neutralize the silver ion following the reaction $\text{Ag}^+ + e^- \rightarrow \text{Ag}^0 + h\nu_1$; $\nu_1 < \nu$. At present, four basic methods are

used for obtaining microcrystalline materials on a glass basis. Fluorine, light-sensitive additions, such as gold, silver and copper, titanium oxide, ferric and manganous sulfides may be used as crystallization catalysts. Sitall based on magnesium-alumosilicate compounds and sitall on a cordierite base proved to be promising in building, radioelectronics, electric engineering, and machine construction. There are 3 figures and 3 tables.

ASSOCIATION: Zavod "Avtosteklo" ("Avtosteklo" Plant), Konstantinovka

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BONDAREV, K.T.

"Polished glass" by IU. A. Brodskii. Reviewed by K. T. Bondarev.
Stek. i ker. 19 no.1:47-48 Ja '62. (MIRA 15:3)
(Glass manufacture) (Brodskii, IU. A.)

BONDAREV, K.T.; BREKHOVSKIKH, S.M.

"Glass technology." Edited by I.I.Kitaigorodskii. Reviewed by
K.T.Bondarev, S.M.Brekhovskikh. Stek. i ker. 19 no.2:48 F '62.
(Glass manufacture) (Kitaigorodskii, I. I.) (MIRA 15:3)

BONDAREV, K.T.; MITKEVICH, G.I.

Glass doors. Stek. i ker. 19 no.8:11-13 Ag '62. (MIRA 15:9)
(Glass construction) (Doors)

S/081/63/000/002/043/080
B156/B144

AUTHOR: Bondarev, K. T.

TITLE: Investigation of structural transformations in sodium borosilicate glasses

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 2, 1963, 375, abstract 2M65 (Steklo. Byul. Gos. n.-i. in-ta stekla, no. 1 (110), 1961, 10-18)

TEXT: The results are given of an investigation into the structures of sodium borosilicate glasses which have undergone various heat treatments for 10 hrs at temperatures of 470-780°C in a gradient furnace. The process of leaching sodium borosilicate glass was studied. It is shown that the concentration of the HCl affects the volume of the porous layer and the stresses during leaching. It is established that the spear-shaped curves for the swelling of the porous layer are not associated with structural changes taking place in the glass during leaching, but that they are associated with the different extents to which the silicon dioxide swells according to the concentration of pH ions. 12 references. [Abstracter's note: Complete translation.]

Card 1/1

KITAYGORODSKIY, I.I., prof. (Moskva); BONDAREV, K.T., kand.tekhn.nauk
(Moskva)

New crystal glass materials made of slag. Priroda 51 no.9:111-114
S '62. (Glass) (Slag) (MIRA 15:9)

GAYDASH, B.I., inzh.; BONDAREV, K.T., kand. tekhn. nauk

New high-voltage rod-type insulators from crystallized
glass materials. Energ. i elektrotekh. prom. no.1:
29-30 Ja-Mr'64.

(MIRA 17:5)

L 12384-65 EWP(e)/EPA(s)-2/EWT(m)/EPF(n)-2/EPA(w)-2/EPA(bb)-2/EWP(b) Pab-10/
ACCESSION NR: AP4048556 Pq-4/Pt-10/Pu-4 S/0286/64/000/019/0032/0032
WW/WH

AUTHOR: Kitaygorodskiy, I. I.; Bondarev, K. T.; Barsukov, M. I.; Lazorenko, V. I.; Ninin, V. I.; Hitkevich, G. I.; Parvankov, G. S.; Boyko, G. V.

TITLE: Method for manufacturing flat foam pyroceram products.
Class 32, No. 165528

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 19, 1964, 32

TOPIC TAGS: An Author Certificate has been issued for a method of manufacturing flat foam pyroceram (sitall) products based on glass made from slag. The glass is heat-treated in two stages in order to obtain a porous surface, while maintaining a nonporous subsurface. While the subsurface is being cooled, the surface is heated to 100—150C above the crystallization point to a viscosity not to exceed 400—500 poise, and maintained under these conditions for 10—30 minutes.

ASSOCIATION: none

Card 1/1

L 60951-65 EWT(1)/EWP(e)/EWT(m)/EPA(s)-2/EPF(c)/EWP(1)/EPA(w)-2/EWP(j)/
 T/EEG(b)-2/EWP(b) Pc-h/Pq-h/Pr-h/Pt-7/P1-h IJP(c) WW/GG/RM/WH
 ACCESSION NR: AP5018930

UR/0363/65/001/006/0943/0946
 661.1:542.6

AUTHOR: Bondarev, K. T.; Barsukov, M. I.; Golius, T. Ye.; Minakov, V. A.;
Min'ko, N. I.; Karlyuk, V. N.

TITLE: Effect of abrupt temperature changes on the structure and properties of certain
 pyroceramics

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 6, 1965, 943-946

TOPIC TAGS: pyroceramic, crystallized pyroceramic, glass structure, glass mechanical
 property

ABSTRACT: Samples of normally crystallized pyroceramics were subjected to additional
 multiple heating up to the maximum working temperature and were then cooled to the
 ambient temperature. To prevent mechanical failure, the rate of the thermal changes
 was chosen by allowing for the stress relaxation time in the material. The phase analysis
 was carried out with a URS-50I diffractometer. Structural changes were studied with an
 EM-5 electron microscope and MIM-8M metallographic microscope. It was found that
 a process of "final" crystallization lasting 2-3 days and changing into recrystallization

Card 1/2

I. 60951-65

ACCESSION NR: AP5018930

6

takes place during the initial period of exposure to high temperatures; this process is associated with an increase in density and strength, and consolidation of structure. As a result, the original structure of pyroceramics changes appreciably, and their physico-mechanical properties decline. The pyroceramic structure is labile. At high temperatures, it tends to convert into a more stable state, which is coarsely crystalline. The rate of accumulative recrystallization reaches perceptible values when the pyroceramic is kept near the maximum temperature of pyroceramization of the initial glass. For this reason, the allowed temperature of long-term service of pyroceramics should be below their crystallization temperature. Orig. art. has: 4 figures.

ASSOCIATION: None

SUBMITTED: 11Feb65

ENCL: 00

SUB CODE: MT, 7D

NO REF SOV: 001

OTHER: 000

dm
Card 2/2

BONDAREV, K.T., MINAKOV, V.A.; DAIKINA, A.A.

Chemical microinhomogeneity of glasses and pyroceramics. Izv.
AN SSSR. Neorg. mat. 1 no.6:963-968 Fe '65. (NTRA 18:8)

I 60948-65 EWT(1)/EWP(s)/EPA(s)-2/EWT(m)/EPP(c)/EWP(i)/EWP(j)/EPA(w)-2/
T/EPC(b)-2/EWP(b) Pc-l/Pq-l/Pr-l/Pt-7/Pi-l IJP(c) WW/GG/RM/WH

ACCESSION NR: AP5018934

UR/0363/65/001/006/0969/0972
861.1:542.65

AUTHOR: Bondarev, K.T.; Karlyuk, V.N.; Minakov, V.A.

TITLE: Kinetics of heterogeneous crystallization of a slag pyroceramic 15-
21

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 6, 1965, 969-972

TOPIC TAGS: pyroceramic, glass porcelain, pyroceramic crystallization, heterogeneous crystallization

ABSTRACT: The formation of nucleation centers and the growth of crystals thereon were studied as a function of temperature in a slag pyroceramic and in glass porcelain. The specimens had been subjected to a special heat treatment in a platinum furnace with a highly extended temperature gradient. Electron microscopy, x-ray structural analysis, and differential thermal analysis were employed. The curves representing the temperature dependence of the number of nucleation centers and linear growth of the crystals were found to be similar to the known curves of homogeneous formation of nucleation centers and crystal growth in supersaturated liquids, and to curves predicted theoretically for the case of pyroceramization of glass. The maximum quantity of separated nucleation centers was observed in the region of a weak exothermic effect preceding the main one of the curve
Card 1/2

L 60948-65

ACCESSION NR: AP5018934

of differential thermal analysis. In the white slag pyroceramic investigated, a relatively small number of aggregates acting as nucleation centers remain in the system up to the instant when the growth rate of silicate crystals becomes practically measurable. Since the temperature of the start of crystal growth is 150 degrees higher than T_g , an article made of this composition must be deformed during pyroceramization because of an insufficient quantity of silicate crystals and a decreasing viscosity of the main phase (glass) with rising temperature. In the case of glass porcelain, however, the pyroceramization occurs under more favorable conditions, and deformation does not take place. Orig. art. has: 6 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 11Feb65

ENCL: 00

SUB CODE: MT,

NO REF SOV: 000

OTHER: 002

Card

2/2

BONDAREV, K.T., kand. tekhn. nauk; MINAKOV, V.A., inzh.; ZAIKINA, A.A., inzh.

Investigating the composition and the nature of chemical heterogeneities
in industrial glass. Stek. i ker. 22 no.8:13-15 Ag '65. (MIRA 18:9)

1. Zavod "Avtosteklo".

L 06476-67 EWT(m)/EWP(e)/EWP(t)/ETI IJP(c) WH/WW/JW/JD

ACC NR: AR6028233

SOURCE CODE: UR/0081/66/000/009/M012/M012

AUTHOR: Bondarev, K. T.; Karlyuk, V. N.; Minakov, V. A.

TITLE: Nucleation of catalyst and crystals in certain pyroceramics 15

32
13

SOURCE: Ref. zh. Khimiya, Part II, Abs. 9M98

REF SOURCE: Steklo.Tr. In-ta stekla, no. 3(128), 1965, 103-109

TOPIC TAGS: nucleation, catalyzed crystallization, glass property, glass product

ABSTRACT: A study was made of the temperature dependence of the quantity of centers and growth of crystals of the main silicate phase on them in the glass of white slag-pyroceramic and for the purpose of comparing some other pyroceramics. The studies were made on samples which had undergone a special thermal treatment in a Pt furnace with a highly stretched temperature gradient. The soaking time was 2 hr. The temperature dependence of nucleation was studied by means of quantitative electron microscopy. The temperature curves of precipitation of nuclei and growth of crystals of the main silicate phase in the slag-pyroceramic and glass porcelain were found to be similar in shape to curves of homogeneous nucleation and growth of crystals in supersaturated liquids and curves theoretically predicted for the case of glass crystallization. However, in glasses tending toward liquation, the nucleation of Zn, Fe and Mn sulfides and fluorides probably occurs immediately upon cooling of the glass melt. The curve of the number of crystallization centers as a function of the reheating tem-

Card 1/2

L 06476-67

ACC NR: AR6028233

perature of the glass has a characteristic horizontal branch. The cause of the observed warping of articles made of the slag-pyroceramic has been determined and explained. This occurs when the temperature curves of the precipitation of nuclei and crystal growth do not overlap. The observed temperature dependences of nucleation and crystal growth in the slag-pyroceramic and glass porcelain showed the fundamental possibility of plotting the temperature dependence of the nucleation rate and crystal growth and their relationship to the chemical composition. I. M. [Translation of abstract]

SUB CODE: 11

Card 2/2 m/le

AUTHOR: Bondarev, K. T.; Karlyuk, V. N.

ORG: none

TITLE: Controlling the crystallization kinetics of a slag pyroceramic

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 9, 1966, 1716-1719

TOPIC TAGS: crystallization, silicate glass, fluorine, slag

ABSTRACT: The effect of various amounts of fluorine on the pyroceramization kinetics in a slag pyroceramic was studied. Microscopic analysis showed no appreciable influence of fluorine on nucleation: as in the fluorine-free slag pyroceramic, the nuclei formed in the melt continue to exist in the 20-530°C range. A further rise in temperature increases the density of nuclei per mm³ and decreases their size. Debye powder patterns and x-ray structural analysis showed that the introduction of fluorine causes the separation of crystalline phases at lower temperatures, a redistribution of the temperature domains of their existence, and the separation of new crystalline phases. The results obtained indicate that it is possible in principle to control the kinetics of pyroceramization by changing the temperature course of the viscosity curve by means of fluorine admixtures, which lower the crystallization temperature, and eliminate the temperature gap between the processes of nucleation and silicate crystal growth in

Card 1/2

UDC: 6661:542.65

L 00430-07

ACC NR: AP6030782

slag pyroceramics. Orig. art. has: 3 figures. ①

SUB CODE: 11/ SUBM DATE: 29Nov65/ ORIG REF: 004/ OTH REF: 002

Card 2/2 *eg/k*

PEABEROV, Z.F.; AVANKEOV, V.T.; MUNDAREV, E.V.

Experimental investigation of the process of intermittent oil
flooding from water encroached layers. Stat.nauch.-tekh.inform.

Azerb.Inst.nauch.-tekh.inform.Ser.neft.prom. no.1:2-11 1/3.

(MIRA 18:8)

AVANESOV, V.T.; EYVAZOV, E.G.; GUSEYNOV, G.P.; BONDAREV, K.V.

Analyzing results and evaluating possibilities of Sub-Kirmaki
flooding in the Chakhnaglyar field. Trudy AzNII DN no.3:169-209
'56. (MIRA 11:6)

(Apsheron Peninsula--Oil well flooding)

RZABEKOV, Z.F.; AVANESOV, V.T.; BONDAREV, K.V.

Effect of surfactants on the oil flooding properties of sea and
river water. Neftprom.delo no.11:13-16 '63. (MIRA 17:3)

1. Azerbaydzhanskiy nauchno-issledovatel'skiy institut po dobyche
nefti.

BONDAREV, L., student 4-go kursa

A single line. Vokrug sveta no.5:6-7 My '55. (MIRA 8:6)
(Angara River--Scientific expedition)

BONDAREV, L.G.

Kolpakovskiy Glacier [with summary in French]. Rab. Tian'-Shan.
fiz.-geog. lab. no.1:55-64 '58. (MIRA 12:8)
(Kolpakovskiy glacier)